

U.S. Patent Application Serial No. 09/209460 filed on December 11, 1998 and entitled "Ultra Wide Bandwidth Spread-Spectrum Communications System," all of which are incorporated herein by reference in their entirety."

IN THE CLAIMS:

Please delete claims 2-28 as follows, and add new claim 29.

29. An antenna device having ultra wide bandwidth (UWB) characteristics, comprising:

a ground element having a cutout section with an inner circumference, the inner circumference having a first shape; and

a driven element with an outer circumference having a second shape, the driven element being smaller in size than the cutout section and being situated within the cutout section to define a clearance area between the driven element and the ground element,

wherein the first shape is a first simple closed curve having no cusps, including a plurality of first concave portions and a plurality of first convex portions,

wherein the second shape is a second simple closed curve having no cusps, including a plurality of second concave portions and a plurality of second convex portions,

wherein the first and second shapes are formed such that any radial line from the center point of the driven element will intersect the first shape at a single first intersection point, and will intersect the second shape at a single second intersection